

(Following Paper ID and Roll No. to be filled in your Answer Books)

PAPER ID :1231

Roll No.

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B.Tech

(SEM. II) Theory Examination 2012-13

GEOLOGICAL SCIENCES

Time : 3 Hours

M.M. : 80

Note: Attempt All Questions.

SECTION - A

Q1. Attempt all question parts

8 x 2 = 16

- What are outcrops?
- What are metamorphic rocks?
- Compare and contrast outlier and inliers.
- Enlist the advantages of remote sensing techniques in geological investigations.
- What are joints? Classify the various types of joints.
- Specify some causes of landslides.
- Mention the purpose of reservoir.
- What are all the geological studies should be conducted before constructing a dam?

SECTION - B

Q2. Attempt any THREE question parts

8 x 3=24

- Illustrate about the structure and texture of rocks. Write its significance.
- Describe any FIVE physical properties in identification of mineral with suitable mineral examples.
- Explain the various effects of folding and their civil Engineering importance with reference to dams, reservoirs and railway tracks along hill slopes.
- Enumerate the geological factors which influence the choice of site for a bridge.
- Discuss the geometrical parameters of joints which are measured during a survey of rock joints.

SECTION -C

Attempt all questions

8 x 5 =40

Q3. Attempt any two parts

(4x2=8)

- a) Enumerate about the stages of evolution of sedimentary rocks.
- b) Enumerate the important igneous rocks and give their distinguishing characters.
- c) Discuss the engineering properties of foundation rocks that are to be determined prior to construction in an engineering project.

Q4. Attempt any ONE part

(8 x 1=8)

- a) Describe the physical properties of minerals that constitute metamorphic rocks.
- b) Describe the effects of ASR on structural properties of concrete.

Q5. Attempt any ONE part

(8 x 1=8)

- a) What are the effects of temperature, confining pressure and different stresses on the sedimentary minerals?
- b) Explain the following terms with respect to Pozzolonic Materials:
 - (i) Drying Shrinkage and Creep
 - (ii) Permeability and Absorption
 - (iii) Sulfate Attack
 - (iv) Slag

Q6. Attempt any ONE part

(8 x 1=8)

- a) Narrate the engineering behavior of rock masses.
- b) Specify the causes of landslides and its prevention with a case study

Q7. Attempt any two parts

(4x2=8)

- a) Investigate about the geological investigations necessary for constructing tunnels in a highly sheared area.
- b) Brief note on the origin of underground water.
- c) Mention the essential parameters needed for evaluating the ground water potentialities of an aquifer.